Commonwealth of Kentucky
Division for Air Quality

PERMIT APPLICATION SUMMARY FORM

Completed by: Julian Breckenridge

GENERAL INFORMATION:

Name:	Dow Corning Corporation - Elizabethtown Plant
Address:	760 Hodgenville Road Elizabethtown, KY 42701
Date application received:	12/18/2006
SIC Code/SIC description:	2891 & 2822, Adhesives/ Sealants & Synthetic Rubber
Source ID:	21-093-00005
Source A.I. #:	1658
Activity ID:	APE20060005, APE20070001, APE20070002
Permit:	F-05-037 R1

APPLICATION TYPE/PERMIT ACTIVITY:

[ ] Initial issuance	[ ] General permit
[x] Permit modification	[x] Conditional major
___Administrative	[ ] Title V
_x_Minor	[ ] Synthetic minor
_x_Significant	[ ] Operating
[ ] Permit renewal	[x] Construction/operating

COMPLIANCE SUMMARY:

[ ] Source is out of compliance [ ] Compliance schedule included
[x] Compliance certification signed

APPLICABLE REQUIREMENTS LIST:

[ ] NSR	[ ] NSPS	[x] SIP
[ ] PSD	[ ] NESHAPS	[ ] Other
[ ] Netted out of PSD/NSR	[ ] Not major modification per 401 KAR 51:001, 1(116)(b)	

MISCELLANEOUS:

[ ] Acid rain source
[ ] Source subject to 112(r)
[x] Source applied for federally enforceable emissions cap
[ ] Source provided terms for alternative operating scenarios
[ ] Source subject to a MACT standard
[ ] Source requested case-by-case 112(g) or (j) determination
[ ] Application proposes new control technology
[x] Certified by responsible official
[ ] Diagrams or drawings included
[ ] Confidential business information (CBI) submitted in application
[ ] Pollution Prevention Measures
[ ] Area is non-attainment (list pollutants):

EMISSIONS SUMMARY:

Pollutant	Actual (tpy)	Potential (tpy)
PM	7.38	262
PM_{10}	7.67	< 90
VOC	31.9	87.2
NO_x	0.201	18.7
SO_2	0.024	0.112
CO	0.040	15.7
Single HAPs	< 9	< 9
Combined HAPs	< 22.5	< 22.5

SOURCE DESCRIPTION:

Dow Corning Corporation – Elizabethtown Plant produces various specifications of silicone adhesives and sealants, and the source falls under the SIC codes 2891 & 2822, silicon adhesive and sealants production. Equipment at the plant is organized in the permit according to the sundry processing areas at this facility, inclusive of the support areas such as plant heating.

The potential to emit (as defined in 401 KAR 52:001, Section 1 (56)) of PM_{10} and VOC are greater than one hundred (100) tons per year. However, the source has requested voluntary permit emission limits of nine (9) tons per year (tpy) or less of a single hazardous air pollutant (HAP), and 22.5 tpy of less of combined HAPs. The source also requested a voluntary emission limit of 90 tpy or less of volatile organic compounds (VOC), particulate matter less than 10 microns (PM_{10}) and other criteria pollutants. Therefore, the source is subject to the provision of 401 KAR 52:030, *Federally enforceable permits for non-major sources*. As such, this source will not be a major source of HAP emissions, as defined in 40 CFR 63.2, and there are no *NESHAPs* (40 CFR 63 and 401 KAR 63) applicable to this source.

Dow Corning Corporation had submitted minor and significant revisions to the Division of Air Quality, that will be combined into the permit # F-05-037 R1. The following revisions are categorized according by heading, as follows:

1. MINOR PERMIT REVISION: ADDITION OF A FAST SILO (F-05-037 R1)

The source proposed on January 2007, the addition of a new emission point BL for a silo in the Press Mixer area, which currently contains the Next Generation Sealant Process (NGSP) and Horizontal Press Mixer (HPM). Due to a higher demand from production, it is necessary to have an additional filler silo at the site to feed the production at both the HPM and NGSP processes and another process in the future. This silo will be equipped with a baghouse to control particulate emissions during transfer. The new baghouse will have the same PM requirements as the rest of the filter units on site.

Moreover, a minor change at emission point FL (Ross Mixer #3) had been implemented in order to vent the mixer pot to the dust collector during a nitrogen sweep at the pot for industrial hygiene and safety purposes. This will increase the potential emissions from this emission point for VOC of 0.16 tons per year.

2. SIGNIFICANT PERMIT REVISION: PERMIT MODIFICATIONS (F-05-037 R1)

The source had proposed on January 18, 2007 to the Division of Air Quality for changes to be made to its current permit # F-05-037. Due to the fact that the maximum controlled particulate matter emissions do not meet or exceed the Allowable Rates Limit stated in 501 KAR 59:010, Dow Corning requested the removal of the Specific Recordkeeping Requirements 5.c in permit F-05-037 for records of monthly processing rates and hours of operation for the following areas: 02 Press Mixer Area (p. 6), 03 Werner-Pfleiderer (p. 8), 04 Batch Area (p. 13), 05 CU/WP-Oxime (p. 17), 011 Misc. Cleaning Operations (p. 25), and 012 Latex Process (p. 29). Also, areas 06 ABM Sylgard Tanks (p. 19), 07 Treated Silica Manufacturing (Tumbler) (p. 21-22), 08 Roof Coating Area (p. 21-22), and 09 Bulk Filler Storage (Silos) (p. 21-22) Specific Recordkeeping Requirements are to be worded like the previous areas mentioned.

The Specific Control Equipment Operating Conditions (p. 34) relating to all of the dust collections systems that are on site are to be omitted from the permit. The source is performing preventative maintenance, of which the information is submitted to the Division in the semi-annual monitoring reports, and weekly visual emission inspections to ensure the proper operation of the dust collection systems on site. Moreover, the water flow for emission point C2 (Werner-Pfleiderer Buffalo Scrubber) is to be changed from 150 gal/min to 54 gal/min, for nothing has changed with this emission point since their old permit F-97-005. The Specific Monitoring and Recordkeeping Requirements are to be removed from emission points containing natural gas boilers. Finally, emission point S9 (p. 28) is to be removed from the permit.

3. MINOR PERMIT REVISION: ADDITION OF AN INSIGNIFICANT TANK (F-05-037 R1)

The source proposed on March 2007, the addition of a new raw material tank (emission point BR – T1-8121) at the NGSP process. Currently, the process uses a day tank that is filled via drums. This tank addition will allow the material to be delivered to the plant via tanker truck. The tank will use vapor balancing to control emissions. Nitrogen will be connected to the tanker and the tank will have a nitrogen blanket system. The headspace of the tank and the tanker will be connected together via nitrogen supply. As the tanker is unloaded, nitrogen and vapors from the tank will transfer from the tank to the tanker. This will prevent any venting to atmosphere during transfer to the tank. The

material will then be transferred to the day tank inside when needed. The capacity of the tank has a volume of 10,000 gallons: Emission point BR will be classified as an insignificant activity.

4. MINOR PERMIT REVISION: ADDITION OF A NEW COMPOUNDER (F-05-037 R1)

The source proposed on May 2007, the addition of a new compounder called the NGSP2. It will be placed parallel to the current NGSP compounder and will also share some of its emission points. As a result, particulate emissions from existing emission point B1 will increase 0.09 tpy. The potential VOCs will also increase due to the increase in the throughputs of the additive tanks now shared between NGSP1 and NGSP2. At emission point B6 (NGSP Condenser), a new and more efficient condenser along with an upgraded ventilation system will be replacing the current condenser for NGSP1 and will be used also for NGSP2. The potential VOC emissions from emission point B6 will decrease by 2.53 tpy.

Furthermore, new emission points are associated with NGSP2. Emission points BM (NGSP2 Filler Hopper #1) and BN (NGSP2 Filler Hopper #2) will be located above the compounder to feed it from the silos. This is set up identical to NGSP1 and will increase the particulate potential emissions by 0.331 tpy. A new local exhaust called emission point BQ (Fast Local Exhaust) will be added to the area. This will increase the VOC potential to emit by 1.06 tpy. Emission point BS (Recovery Tank) will be used to recover the condensed methanol from the NGSP process and will be added as an insignificant activity because the potential to emit is only 0.004 tpy of VOCs. In addition, emission points BO (Fast Scale Exhaust #1) and BP (Fast Scale Exhaust #2) will be added as insignificant activities as well for the ventilation to the catalyst scales for industrial hygiene purposes. Finally, emission points B4 (Bag Dump Hopper #2) and S1 (T-6 Bag Dump Hopper) will be removed from the site. This will account for a decrease in potential particulate emissions of 0.187 tpy, collectively.

EMISSIONS AND OPERATING CAPS DESCRIPTIONS:

Just as in existing permit F-05-037, Dow Corning Corporation will still continue to operate under the permit limits of less than 9.0 tons per year of individual hazardous air pollutants (HAP), less than 22.5 tons per year of combined HAPs, and less than 90 tons per year of VOC.

OPERATIONAL FLEXIBILITY:

The source is not restricted as to hours of operation or quantity of product produced while remaining within the caps above.